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EXAMINER

CAPUTO, LISA M

ART UNIT PAPER NUMBER

2876

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,452

Applicant(s)

HIGGINS ET AL.

Examiner

Lisa M Caputo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to because:

Regarding Figure 11, reference number 730 should be 730' according to the specification page 15 line 19.

Regarding Figure 12, reference 700' should be 700'' according to the specification page 15 line 24.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference number 172' and reference letter D are in the specification page 12 line 17 but is not in the drawings (Figure 3). Reference number 166' is in the specification page 12 line 25 but is not in the Figure 3B.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

Regarding page 12, line 4: Replace "know" with --known--.

Regarding page 13, line 2: Reference number 120 is referencing DOE and information layer. Please clarify which object 120 is referring to, and that all of the numbers are correct (i.e. page 10 line 11 refers to CD card 110 but in other places 110 is referred to as the information carrying layer).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 27 is rejected under 35 U.S.C. 102(e) as being anticipated by Usami (U.S. Patent No. 6,376,040).

Usami teaches an optical information medium, optical information recording method, and optical information reproducing method having all of the elements and means as recited in claim 27. Usami discloses an optical memory card 12 that comprises an information carrying layer 14 and a diffractive lens array layer 16. The data layer 14 comprises a recordable layer divided into data patches 20 (see Figures 2A, 2B, col 3, lines 8-30). In a different view, the optical information medium has a substrate 2, a lens layer 4, and a recordable layer 6 (see Figure 1, col 4, lines 12-24).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5, 7-8, 13, 15-17, 22-24, 28-31, 34-39, and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami (U.S. Patent No. 6,376,040) in view of Kudo et al. (U.S. Patent No. 5,552,098, from hereinafter "Kudo").

Usami teaches an optical information medium, optical information recording method, and optical information reproducing method. Usami discloses an optical memory card 12 that comprises an information carrying layer 14 and a diffractive lens array layer 16. The data layer 14 comprises a recordable layer divided into data patches 20 (see Figures 2A, 2B, col 3, lines 8-30), as recited in claims 3-4, 7, 22-24, and 34-35 of the instant application. In a different view, the optical information medium has a substrate 2, a lens layer 4, and a recordable layer 6 (see Figure 1, col 4, lines 12-

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24). Further, regarding claim 13, the memory card is a rectangular shape (see Figure 2A).

Regarding claims 1, 15, and 28, Usami fails to teach that the optical memory card comprises a metal element coupled to the substrate which magnetically holds the substrate to a chuck. Regarding claims 8, 16, and 30 Usami fails to teach that the metal element is a disk. Regarding claims 17 and 31, Usami fails to teach that the thickness of the disk is the same as the thickness of the substrate. Regarding claims 29 and 44-45, Usami fails to teach that the metal element is centrally located.

Kudo teaches a metal mold device for molding a disc substrate. Kudo discloses that with the optical disc produced from the disc substrate 100, the chuck plate 100e is received within the chuck plate attachment recess 100c. The chuck plate 100e is formed of a magnetic material such as a metal, in the form of a disk (as recited in claim 8 of the instant application). The chuck plate is attracted by a magnet of a magnet chucking system of a recording/reproducing apparatus making use of the optical disc for holding the optical disc (see Figure 6, col 10, lines 15-22). The thickness of the disk is the same order as the substrate and is in the center of the substrate as seen in Figure 6.

In view of the teaching of Kudo, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a metal element coupled to the substrate so that the metal element can magnetically hold the substrate to a chuck because it is favorable for the disc to have a strong connection to the chuck so that it will not become removed during processing. It is favorable to use a magnetic coupling

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because it is well known in the art that a magnetic attraction is an efficient way to couple items together. It is favorable to place the disk in the center of the substrate so that it is easily located for attachment. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the metal element a disk because a disk is similar in shape to the card itself and its surface will complement the card. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the disk with the same thickness as the substrate so the surface would be flush and would fit together.

Regarding claims 2 and 41, Usami teaches that a protective layer 8 is provided on the recordable label 6 (see Figure 1, col 4, lines 12-24).

Regarding claim 5, Usami fails to teach that the information carrying layer formed on the body comprises a reflective layer.

Kudo teaches that in the read-only disc produced from the disc substrate 100, a pattern of recesses and lands 103, corresponding to information signals, is formed on one of the major surfaces of the disc substrate 100, as shown in FIG. 6, and a reflective film formed of aluminum etc. is deposited on the pattern 103 by sputtering or vacuum deposition. The pattern 103 is formed by the stamper 50 (see Figure 6, col 9, lines 37-43).

In view of the teaching of Kudo, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a reflective layer on the substrate for ease of utilizing (i.e. protecting, reading, processing) the memory card.

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Regarding claims 36-39, Usami fails to teach that grooves are embossed onto the substrate and that the information carrying layer is provided over the grooves.

Regarding claims 42-43, Usami fails to teach that the diffractive optical elements are placed within and outside of the grooves.

Kudo teaches that in the read-only disc produced from the disc substrate 100, a pre-groove 103 defining a recording track for recording information signals is formed on one of the major surfaces of the disc substrate 100, and a signal recording layer of a magnetic material is deposited on the pre-groove 103. The pre-groove 103 is formed by the stamper 50 (see Figure 6, col 9, lines 44-50).

In view of the teaching of Kudo, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ grooves on the substrate underneath the information recording layer so that the first layer of information signals is well established within the medium. Further it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the diffractive elements both inside and out of the grooves so that there is enough room for data to be stored.

7. Claims 6, 9-12, 18-21, 26, 32-33, 40, and 57-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami as modified by Kudo and further in view of Pierson et al. (U.S. Patent No. 6,304,544, from hereinafter "Pierson"). The teachings of Usami/Kudo have been discussed above.

Regarding claims 6, 26, and 40, Usami/Kudo fails to teach that the information carrying layer includes at least one of a CD and DVD layer.

Pierson teaches a card compact disc. Pierson discloses that various formats or data categories, including compact disc audio data, digital video disc ("DVD"), and/or compact disc read-only-memory ("ROM") data can be embossed into and stored on the first layer 21 by techniques known to those skilled in the art. For trading card applications (see FIG. 1), for example, digital data including visual information of photographs, video, textual information such as a person's or team's statistics and biographies, historical information, music, narration, and other data can be stored and recalled at will be a user of a disc reader 15. As understood by those skilled in the art, these trading card applications, for example, can include sports, music, entertainment, publishing, book, magazine, topical information, or various other types and formats of trading cards (see Figure 1, col 5, lines 30-43).

In view of the teaching of Pierson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a CD or DVD layer because it is well known in the art that these conventional layers are efficient for storing data and because they are standard, they can be used in different environments.

Regarding claims 9-12, 18-21, and 32-33, Usami/Kudo fails to teach that there are alignment holes and protrusions.

Pierson teaches that an opening 32 preferably extends through the first, second, third, and fourth layers 21, 24, 26, 28 in a medial portion thereof (see FIGS. 1-2B and 6-7). The trading card optical compact disc 20 preferably has a perforated opening cover 33 which preferably attaches along perforation lines to either the third or fourth layers 26, 28. The opening cover 33 is preferably packaged and shipped with the trading card

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optical compact disc 20 so that the purchaser or user of the card can detach or remove the opening cover 33 from the card 20 for positioning the card 20 onto the spindle S of a disc reader 15. The opening 32 preferably has a diameter of about 0.6 inches, i.e., about 15 mm, and is primarily used to mount the card 20 onto the spindle S of a disc reader 15. Further, the major elevational portion 22 is formed in a medial portion of the trading card 20 and has first and second pairs of spaced-apart outer side peripheries defining outer boundaries of the major elevational portion 22. Each of the first pair of space-apart outer side peripheries arcuately extend between each of the second pair of space-apart outer side peripheries. Each of the second pair of space-apart outer side peripheries extend generally linearly between each of the first pair of spaced-apart outer peripheries. Each of the arcuately-extending first pair of spaced-apart outer side peripheries of the major elevational portion 22 are centered about an axis A extending through the medial opening 32 and generally perpendicular to the linearly-extending second pair of space-apart outer side peripheries 38 (see also 38' of FIG. 2B and 38" of FIG. 7). A radius extending from a medial portion of the medial opening 32 to each of the arcuately-extending first pair of spaced-apart outer side peripheries of the major elevational portion 22 is less than 1.6 inches (see Figures 1-2, 6-7, col 6, lines 50-62 and col 7, lines 20-48).

In view of the teaching of Pierson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ alignment holes and protrusions so that the disk is able to be mounted correctly and efficiently onto the chuck.

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Regarding claims 57-63, Usami/Kudo fails to teach that the substrate has a center hole, and that the dimensions of the card are on the order of mm.

Pierson discloses an opening 32 preferably extends through the first, second, third, and fourth layers 21, 24, 26, 28 in a medial portion thereof (see FIGS. 1-2B and 6-7). The trading card optical compact disc 20 preferably has a perforated opening cover 33 which preferably attaches along perforation lines to either the third or fourth layers 26, 28. The opening cover 33 is preferably packaged and shipped with the trading card optical compact disc 20 so that the purchaser or user of the card can detach or remove the opening cover 33 from the card 20 for positioning the card 20 onto the spindle S of a disc reader 15. The opening 32 preferably has a diameter of about 0.6 inches, i.e., about 15 mm, and is primarily used to mount the card 20 onto the spindle S of a disc reader 15 (see Figures 1-2, 6-7, col 6, lines 50-62 and col 7-9).

In view of the teaching of Pierson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a center hole in the substrate so that the disk is able to be mounted and read correctly. In addition, it is favorable to have dimensions on the order of mm so that the disk is kept small enough to work within standard computers and spaces.

8. Claims 14 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami as modified by Kudo and further in view of Fischer (U.S. Patent No. 6,016,298). The teachings of Usami/Kudo have been discussed above.

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Regarding claims 14 and 25, Usami/Kudo fails to teach that the information carrying layer is formed on a first side of the substrate and at least one diffractive optical element is positioned on the second side of the substrate.

Fischer teaches a calling card. Fischer discloses that the calling card 1 can be imprinted, as before, on the upper side with the name, address and further information. The underside, the data side, is a customary CD, on which data which can be read by a computer can be inscribed. For example, a company profile, a company catalog and similar information, including multimedia, can be recorded. It is also possible to store an entire computer program on the calling card 1. Automatic access to a computer or a home page are mentioned as examples (see Figure 1, col 3, lines 33-42).

In view of the teaching of Fischer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ data on both sides of the card so as to be able to store more information.

9. Claims 46-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haddock (U.S. Patent No. 4,820,913) in view of Kudo and Pierson.

Haddock teaches a multiple card recording system. Haddock discloses that in FIG. 9, an optical card reader, which may form the data source 31 in the systems of FIGS. 1 and 2, has a master data card 141 disposed in reading relation thereto. The card 141 is usually received in a movable holder 142 which brings the card into the read beam trajectory. A light source 143, such as a semiconductor laser or light emitting diode emits a beam 145, typically of near infrared wavelength, which passes through collimating and focussing optics 147. The beam may be sampled by a beam splitter 149

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which transmits a portion of the beam through a focussing lens 151 to a photodetector 153. The detector 153 confirms that the read beam is on and of a constant power level. Power is about 5% of the power needed to record on the card. Detector 153 is optional (see Figures 1-2 and 9, col 6, lines 36-50). Hence, Haddock teaches a driver for reading an optical memory card with a reading laser, collimating lens, and a photodetector (as recited in claims 46 and 49-54).

Regarding claims 46 and 53, Haddock fails to teach a magnetic chuck.

Kudo teaches a metal mold device for molding a disc substrate. Kudo discloses that with the optical disc produced from the disc substrate 100, the chuck plate 100e is received within the chuck plate attachment recess 100c. The chuck plate 100e is formed of a magnetic material such as a metal, in the form of a disk. The chuck plate is attracted by a magnet of a magnet chucking system of a recording/reproducing apparatus making use of the optical disc for holding the optical disc (see Figure 6, col 10, lines 15-22).

In view of the teaching of Kudo, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of a magnetic chuck because it is well known in the art that a magnetic chuck is a conventional and efficient means to hold a card so that it can be processed.

Regarding claims 47-48 and 55-56, Haddock as modified by Kudo fails to teach that there are alignment holes and protrusions.

Pierson teaches that an opening 32 preferably extends through the first, second, third, and fourth layers 21, 24, 26, 28 in a medial portion thereof (see FIGS. 1-2B and 6-

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7). The trading card optical compact disc 20 preferably has a perforated opening cover 33 which preferably attaches along perforation lines to either the third or fourth layers 26, 28. The opening cover 33 is preferably packaged and shipped with the trading card optical compact disc 20 so that the purchaser or user of the card can detach or remove the opening cover 33 from the card 20 for positioning the card 20 onto the spindle S of a disc reader 15. The opening 32 preferably has a diameter of about 0.6 inches, i.e., about 15 mm, and is primarily used to mount the card 20 onto the spindle S of a disc reader 15. Further, the major elevational portion 22 is formed in a medial portion of the trading card 20 and has first and second pairs of spaced-apart outer side peripheries defining outer boundaries of the major elevational portion 22. Each of the first pair of space-apart outer side peripheries arcuately extend between each of the second pair of space-apart outer side peripheries. Each of the second pair of space-apart outer side peripheries extend generally linearly between each of the first pair of spaced-apart outer peripheries. Each of the arcuately-extending first pair of spaced-apart outer side peripheries of the major elevational portion 22 are centered about an axis A extending through the medial opening 32 and generally perpendicular to the linearly-extending second pair of space-apart outer side peripheries 38 (see also 38' of FIG. 2B and 38" of FIG. 7). A radius extending from a medial portion of the medial opening 32 to each of the arcuately-extending first pair of spaced-apart outer side peripheries of the major elevational portion 22 is less than 1.6 inches (see Figures 1-2, 6-7, col 6, lines 50-62 and col 7, lines 20-48).

In view of the teaching of Pierson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ alignment holes and protrusions so that the disk is able to be mounted correctly and efficiently onto the chuck.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lisa M. Caputo** whose telephone number is **(703) 308-8505**. The examiner can normally be reached between the hours of 8:30AM to 5:00PM Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 703-305-3503. The fax phone number for this Group is (703)308-7722, (703)308-7724, or (703)308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [lisa.caputo@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



LMC

June 23, 2003



THIEN M. LE
PRIMARY EXAMINER